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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,101	09/26/2003	Ann Marie Smith	LIT-PI-304a.D1	1940

7590 05/26/2004

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EXAMINER

ADDIE, RAYMOND W

ART UNIT	PAPER NUMBER
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3671

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

no

Office Action Summary	Application No.	Applicant(s)	
	10/673,101	SMITH ET AL.	
	Examiner	Art Unit	
	Raymond W. Addie	3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/26/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-6, drawn to a sensor system for sensing physical properties of excavated material, classified in class 37, subclass 347, 348.
 - II. Claim 7, drawn to an excavating device having sensors disposed upon the cutting teeth of the device, classified in class 37, subclass 195, 466, 906.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions The apparatus of Group I is structurally and functionally distinct from the apparatus of Group II.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Stephen Christian on 5/17/2004 a provisional election was made without traverse to prosecute the invention of Group I,

claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action. Claim 7 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al.

5,961,437 in view of Lancaster et al. # 5,445,795.

Smith et al. discloses that in an underground barrier excavating and emplacement apparatus (220) having means (31) for excavating earthen material from about a buried waste site, and conveyor means (33) for carrying the excavated material outwardly of the apparatus.

Although Smith et al. clearly discloses excavating soil adjacent and/or below a known waste site, Smith et al., does not disclose determining if the excavated soil contains pollutants leached drums or the like, known to be in the waste site. See col. 4.

However, Lancaster et al. teaches pollution detection and monitoring has become of utmost importance; and that one of the more common pollutants is volatile organic compounds or (VOC's). The system comprising:

Sensor means (120/140/210), having optical filtering means (213, 220, 222, 236), for sensing the presence of pollutants in soil and or water.

Signal processor means (218) for processing sensor signals and providing human perceivable representations of the physical properties identified by the signals.

See cols. 5-7, ln. 36.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to provide the excavation and emplacement device of Smith et al., with pollution detection sensor systems, as taught by Lancaster et al., in order to determine the pollutant type and content of the material being excavated.

3. Claims 2, 4, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. '437 in view of Lancaster et al. '795 as applied to claim 1 above, and further in view of Farmer et al. # 3,646,347.

Smith et al. in view of Lancaster et al. disclose the importance of pollutant detection in ambient environments utilizing spectroscopic type devices; but does not explicitly

disclose a device for detecting radiation. However, Farmer et al. '347 teaches a method and apparatus for measuring radiation in ambient environments, utilizing a plurality of spectrometers, such as, a gamma ray spectrometer (unnumbered) and a scintillation detector see. Fig. 3; col. 6. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the pollution detection system of Smith et al. in view of Lancaster et al., with various radiation detecting spectrometers, as taught by Farmer et al., in order to detect various types of radiation in an ambient environment.

4. Claims 1, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. '437 in view of Albert # 4,260,885.

Smith et al. discloses that in an underground barrier excavating and emplacement apparatus (220) having means (31) for excavating earthen material from about a buried waste site, and conveyor means (33) for carrying the excavated material outwardly of the apparatus.

Although Smith et al. clearly discloses excavating soil adjacent and/or below a known waste site, Smith et al., does not disclose determining if the excavated soil contains pollutants leached drums or the like, known to be in the waste site. See col. 4.

However, Albert '885 teaches a method and apparatus for reading out data from an X-Ray fluorescence detector (64); for use in spectroscopy to determine particle composition of a material. See cols. 1, 7.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the device of Smith et al., with a scintillating particle analyzer, as taught by Albert in order to detect metals and other contaminants.

Information Disclosure Statement

5. The information disclosure statement (IDS) submitted on 9/26/2003 has been considered with the following affect: All the references cited on page 1 of the IDS has been signed and initialed by the Examiner. However, the reference to Brueggeman et al. filed 6/1998, listed on page 2 has been incorrectly listed, the reference number is not accurate. Therefore, the Brueggeman et al. reference has not been considered.

Conclusion

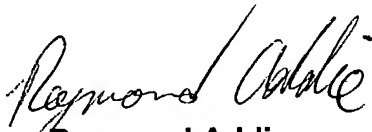
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carter, Jr. et al. # 5,765,965 discloses an underground containment barrier forming device. Welch et al. # 6,140,647 discloses a spectrometer for detecting voc's. Klainer et al. # 5,116,759 discloses a chemical sensor. Oka et al. # 5,880,475 discloses a scintillation fiber type radiation detector. Horesh et al. # 6,091,843 discloses a method of analyzing particles for chemical analysis.

Schmidt et al. # 3,967,928 discloses a method for analyzing particles. Schick et al. # 6,069,935 discloses an X-ray detector and readout device.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond W. Addie whose telephone number is 703 305-0135. The examiner can normally be reached on 8-2, 6-8.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on 703 308-3870. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Raymond Addie
Patent Examiner
Group 3600

5/18/2004